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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 10/697,429 | 10/29/2003 | Bogdan Kowalczyk | 47171-00408USPT | 7741 |

41230 7590 11/27/2006

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EXAMINER

BEAUCHAINE, MARK J

| | |
|----------|--------------|
| ART UNIT | PAPER NUMBER |
|----------|--------------|

3653

DATE MAILED: 11/27/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/697,429

Applicant(s)

KOWALCZYK ET AL.

Examiner

Mark J. Beauchaine

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 September 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 October 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--------------------------------------------------------------------------------------|-------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Objections

Claim 20 is objected to because of the following informality:

The term "sized to corresponding to" is improper grammar.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 7 and 13-16 are rejected under 35 U.S.C. 102(b) as being anticipated by Patent Number 5,370,575 by Geib et al (hereinafter "Geib"). The disc-type processing coin processing device disclosed by Geib incorporates rotatable disc 13, stationary head 12 having a machined surface (column 7, lines 11-17) and a lower surface generally parallel to and spaced slightly away from the rotatable disc, the lower surface having a plurality of shaped regions 42 and having a durable solid lubricant (Abstract, lines 7-10 and column 1, lines 52-57) disposed thereon. Said device sorts received coins by denomination and discharges said coins from a plurality of coin exit channels 27-32 formed in the surface of the sorting head (column 6, lines 34-40)

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The device of Geib is operated by performing the acts of receiving coins via hopper 10, imparting motion to said coins by engaging the coins contact with rotating resilient pad 16 and the lower surface of sorting head 12, and sorting and discharging said coins via exit channels 27-32.

Geib further discloses shaped regions/dimples that are machined into disc-shaped object 12 (column 1, line 54) and durable solid lubricant (Abstract and column 1, line 55) that is deposited on said disc-shaped object.

The term "durable" is defined as being "able to exist for a long time without significant deterioration" (see Merriam-Webster's Collegiate Dictionary, 10th edition). The Applicant's claims fail to quantify the degree of durability. In both the apparatus of Geib and the Applicant's disclosure, a bulk of unsorted coins are inserted into a hopper and are forced to slide against a lubricant applied to the flat surface of a solid disk. It is common for such a bulk of coins to include various types of abrasive debris such as sand, metal spurs, etc. The inclusion of such debris in a bulk of coins processed by such apparatus is able to cause deterioration of a lubricant at various rates. Thus, the durability of both the lubricants of Geib and the Applicant are limited. Furthermore, in order for the lubricant of Geib to be effective it must be able to exist without significant degradation for a long enough time to permit prolonged periods of operation of the apparatus. Therefore, the lubricant of Geib is durable and reads on the Applicant's claims.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 2, 3, 8 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Geib in view of Patent Number US 6,977,096 B2 by LeClaire ("LeClaire"). Geib fails to disclose a lubricant comprising tungsten disulphide particles. LeClaire teaches the application of a lubricant comprising tungsten disulphide particles 30 onto ferrous and non-ferrous substrates (column 1, lines 18-30) for the purpose of enhancing the lubricity of the substrate. Said lubricant has a thickness equal to about one tungsten disulphide particle (column 5, lines 4-8) which has a thickness of about one micron. Said particles are deposited into dimples 28 that are sized to correspond to said particles (see Figure 3). It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the tungsten disulphide lubricant of LeClaire into the device of Geib for the purpose of enhancing the lubricity of substrate 12.

Claims 4 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Geib as applied to claims 1 and 7 above, and further in view of Patent Number US 6,428,883 B1 by White ("White"). Geib fails to disclose a lubricant having a thickness of less than about one micron. White teaches a tungsten disulphide lubricant having a

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thickness of less than about one micron (column 5, lines 11-21) deposited onto a substrate for the purpose of enhancing the lubricity of the substrate. It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the lubricant of White into the device of Geib for the purpose of enhancing the lubricity of substrate 12.

Claims 5 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Geib as applied to claims 1 and 7 above, and further in view of Patent Number 4,131,491 by Joseph ("Joseph"). Geib fails to disclose machine component 12 as being constructed of a 4140 Alloy Prehard Steel. Joseph teaches machine component 20 constructed of 4140 Alloy Prehard Steel (column 6, lines 16-27) for the purpose of providing structural integrity to said component. It would have been obvious to one of ordinary skill in the art at the time the invention was made to construct the machine component of Geib with the steel of Joseph for the purpose of providing structural integrity to the component.

Claims 6 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Geib as applied to claims 1 and 7 above, and further in view of Patent Number 5,270,374 by Ratliff ("Ratliff"). Geib fails to disclose machine component 12 as being constructed of a Nitralloy 135 steel. Ratliff teaches machine components constructed of Nitralloy 135 steel (column 6, lines 65-4) for the purpose of providing structural integrity to the component. It would have been obvious to one of ordinary skill in the art at the

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time the invention was made to construct the machine component of Geib with the steel of Ratliff for the purpose of providing structural integrity to the component.

Claims 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Geib as applied to claim 16 above, and further in view of Patent Number US 6,790,295 B2 by Kinoshita et al ("Kinoshita"). Geib fails to disclose the act of polishing a first surface after machining. Kinoshita teaches a slide surface that has lubricant-retaining dimples (column 1, lines 55-59) and is polished after being machined (column 2, lines 47-51) for the purpose of enhancing the lubricity of the surface. It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the acts of machining and polishing of Kinoshita into the manufacturing process of the device of Geib for the purpose of enhancing the lubricity of slide surface of disc 12.

Claims 19 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Geib in view of Kinoshita as applied to claim 17 above, and further in view of LeClaire. Geib/Kinoshita fails to disclose a solid lubricant comprising tungsten disulphide particles that correspond to the size of the dimples. LeClaire teaches the application of a lubricant comprising tungsten disulphide particles 30 onto ferrous and non-ferrous substrates (column 1, lines 18-30) for the purpose of enhancing the lubricity of the substrate. Said particles are deposited into dimples 28 that are sized to correspond to said particles (see Figure 3). It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the tungsten

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disulphide lubricant of LeClaire into the device of Geib for the purpose of enhancing the lubricity of substrate 12.

Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over Geib as applied to claim 16 above, and further in view of Ratcliff. Geib fails to disclose the act of subjecting the disc-shaped metal object to a nitride and heat treatment during the manufacturing process. Ratcliff teaches the act of subjecting a metal object to a nitride and heat treatment process during a manufacturing process for the purpose of enhancing the surface hardness of the object. It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the nitrating and heating acts of Ratcliff into the manufacturing process of Geib for the purpose of enhancing the surface hardness of the object.

Claim 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over Geib as applied to claim 16 above, and further in view of Kinoshita. Geib fails to disclose the act of polishing a first surface of the metal object after depositing a solid lubricant. Kinoshita teaches the act of depositing a solid lubricant on a metal object (i.e., chromium plating – see column 2, lines 47-51) and a subsequent act of polishing said solid lubricant (column 2, lines 47-51 and column 3, lines 47-54) for the purpose of enhancing the lubricity of the solid lubricant. It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the depositing

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and polishing acts of Kinoshita into the manufacturing process of Geib for the purpose of enhancing the lubricity of the object surface.

Response to Arguments

Applicant's arguments with respect to claims 1-21 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mark J. Beauchaine whose telephone number is (571)272-6934. The examiner can normally be reached on 8:00AM through 5:00PM Mondays through Thursdays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick H. Mackey can be reached on (571)272-6916. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

mjb



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